Jamboree on the Air Thought Starters

The purpose of this document is to provide ideas on how to run a Jamboree-on-the-Air event.

These ideas come from many of the amateur radio operators who have conduced JOTA sessions in the past.

The document is in three parts.

Part I discusses ideas on what to do when the scouts and parents arrive prior to going on the air.

Part II has suggestions on operating HF and VHF/UHF radios.

Part III contains other ideas to occupy the participants while the radios are in use.

PART I --- WHAT TO TEACH AND SHOW THE SCOUTS PRIOR TO USING THE RADIO

Phonetics

Have posters showing the phonetic alphabet at the reception area and at the operating stations. Hand out slips of paper with the phonetic alphabet and Morse code characters. Have everyone pronounce all the phonetics and then give examples of the usage. For example: my name is Frank (then spell it phonetically). The parents of the scouts should also receive a copy and can help the younger cubs learn their name for use on the radio.

You should also explain why we use phonetics and how useful they are in a lot of situations like phone calls, etc.

A copy of phonetics and Morse code listing is included in this document.

Q-signals, Pro-signs, CW abbreviations

Have a poster showing the Q-signals, Pro-signs that they will hear in a typical conversation.

For example: QTH, QSL, QSB, QRM, QRN, QSY.

Adding OM, YL, XYL, 73, and 88 to the list also adds some fun to a typical conversation. The YL's (typically the Daisy or Brownies Girl Scouts) enjoy saying 88's to the other ham.

A convenient online reference for all the Q-signs is:

http://www.hamuniverse.com/qsignals.html

Geography, DXCC, and QSL Cards

Explain what DX means, and the meaning of QSL and why we exchange QSL cards.

Invite a ham who has a DXCC QSL collection to attend and explain their interest in collecting QSL cards from around the World. Having a world map and globe allows the scouts to find various countries that they might hear on the radio.

Have a large sheet with 20 or so countries on the left side of the sheet and then on the right side, a random listing of call prefixes. The goal is to match the left with the right.

Some call signs are obvious. For example: I Italy, G Great Britain, JA Japan etc. Then there are the not so obvious calls that they might hear on the radio. For example: XE Mexico, VE Canada.

Ask the scouts to pick a favorite country to see if there is a QSL card from there. Having a world map showing all the countries and their prefixes adds to the challenge of finding specific call signs.

Depending upon the number of QSL cards on display, ask which country they think is the hardest to contact and why? Eventually North Korea or Myanmar is mentioned. If the QSL card collection has one or both of the cards, take time to display the card and locate the country on the map.

A favorite challenge to the audience (adults primarily) is to ask about Mutiny on the Bounty! The mutiny was led by Fletcher Christian against commanding officer Lieutenant William Bligh. Descendants of some of the mutineers still live on Pitcairn Island. VR6SC is the call sign of Shawn Christian and a direct descendant.

Show and explain the calls they will hear from the USA and have a USA map showing the prefixes.

Use a blank USA map and a blank World map to challenge the Scouts to identify each state or country.

Most QSL card collections also have Special Event cards. For example: JOTA from around the world, lighthouses, battleships, airplanes, and ships like the Titanic.

If any of the hams have special awards for working foreign counties or US States, have then display the award and explain what is required! For example: DXCC, Alexander the Great Award, Worked All Africa, WAS, Worked U.S. Territories.

Stamp Collections

Operators exchange their QSL cards either via the postal service or a QSL card service like the QSL bureau offered by the American Radio Relay League.

One benefit of using the mail is the returned QSL card will usually have the stamps from that country! Since the cost of postage varies from country to country and some foreign amateurs request help with postage, explain the use of the IRC from the US Postal Service or the use of a Green Stamp (one dollar bill).

Ask a ham to bring their stamp collection.

JOTA Patches

If possible, have the previous JOTA patches on display and have the current one available for display. It is also nice to have the ordering information available.

Here is a sheet of stickers that can be printed out for use in rewarding the Scouts for various things. The icons are pulled from the 2012 JOTA patch. We can provide this template (for Avery 22807, 22817, and 22825 labels) along with all the icons for use however they see fit.

Magazines and License Manuals

Copies of QST or CQ magazines allows the participants to see the equipment available and the articles on amateur radio. It can also be a convenient way to give away the magazines that usually pile up in our shacks.

Having copies of the license study guides available is also a good idea. Now that Morse code is no longer a requirement it may stimulate interest in obtaining a FCC license.

Emergency Communication Services

Ask a member of the local amateur radio club to talk about the use of amateur radio is situations where commercial power or normal communications services are not available.

Examples include Field Day, Skywarn, the Florida Hurricane Center, floods/earthquakes, etc.

Publicity

Make sure you get the JOTA date on the local Boy Scout and Girl Scout calendars.

Inviting the local newspaper and TV stations to cover the event can produce great publicity for both the youth organization as well as the amateur radio club.

Be sure to have photos taken of the event and submit them to ARRL and the BSA.

Make sure you have permission from the parents to use their child's picture.

PART II -- OPERATING STATIONS

HF Activities

Before allowing the attendees to use the HF radio, make sure you don't violate any Third Party agreements. You can find a list of Scouting countries and those that have Third Party agreements at http://www.scouting.org/jota/countries.aspx

If possible, have 2-3 HF stations available for use. Having access to multiple buildings close together allows little noise interference at each station.

Each location should have a poster on the wall showing who the participants have worked or heard. Let the scouts log the contact on this poster.

You should also have a poster showing how propagation around the world works, and the role the sun plays in creating these ionization layers.

Usually 2 stations can be operating SSB and a third could be using PSK or Morse code.

A Morse code station is also feasible. Since most PC software allows the use of the soundcard to copy and send CW, the participants can see and hear Morse code.

The PSK station should have a large screen attached to the laptop so people can see the waterfalls. A lot of the participants would rather type than talk. So it's a popular option.

If you have a CW operator available, have the amateur demonstrate the use of a key for sending CW. If you are proficient in Morse Code to at least 5 wpm there is an Interpreter Strip you can wear on your uniform. Here is the link showing the strip and the requirements. http://www.k2bsa.net/2012/05/morse-code-interpreter-strip/

Depending upon the noise in the area, having multiple headphones adds to the enjoyment of both the participants and the amateur operator.

VHF/UHF Activities

Having lots of 2M radios available and using a simplex frequency allows the participants to talk to their friends or new Scouts. It also gets the participants past the fear of talking on a radio.

Usually some hams will have their mobiles in their cars and they can help by demonstrating their radios along with proper protocol.

It also gives you a chance to explain how and why we use repeaters. You will usually want to avoid using the repeaters unless there is low activity.

APRS

If you can find a ham who can setup an APRS station it makes a neat display of the capabilities for tracking individuals, cars, balloons, satellites etc.

International Space Station.

Obviously depending upon the orbital passes and location, talking to the ISS might be possible. Even getting the pass information and listening for the astronauts can be a crowd pleaser.

IRLP and Echolink

See if the use of an IRLP and/or Echolink system works in your JOTA area. Having a list of all the stations available demonstrates how powerful these networks are.

PART III – OTHER ACTIVITIES

Foxhunting

Ask your local ham radio club if they could conduct a Foxhunt.

There was an article in QST about the Boy Scouts doing one. Here is the link to the PDF for the Fox Hunt Radiosport article which appeared in the May 2011 issue.
http://www.scouting.org/filestore/jota/pdf/TURNER.pdf

Here's another suggestion around Foxhunting:

> *One thing we do as an extracurricular activity during our Radio Merit Badge Day is a mini Indoor Foxhunt. They love it! So it doesn't lend itself to a book of activities we can distribute, but we might want to mention it.*
>
> *I have a $200 VK3YNG "Sniffer" mounted on a 10 dollar WB2HOL tape measure dipole that we have the kids use to find a low power 2 meter fox made by WB3EYU.*
>
> *I picked up this fox at Dayton for $75 a few years ago. It has a voice recorder on it. I'm not sure if it's still available, but I see Byonics now makes some similar small fox transmitters for less than $100.*
>
> *While the VK3YNG Sniffer is bit overkill for this, it has the advantage that it provides automatic step attenuation and an audio tone s-meter, so it takes about 30 seconds to teach a novice to use it. Of course, you can do this with an ordinary HT that has an s meter, but it requires more skill on the part of the operator.*
>
> http://www.foxhunt.com.au/
> http://theleggios.net/wb2hol/projects/rdf/tape_bm.htm
> http://www.byonics.com/mf

Geocaching

Teaching the use of GPS receivers to find Geocaches in the area allows the participants a chance to learn a new skill and generate interest in the Geocaching Merit Badge. It also keeps the participants busy while the radio portion of JOTA is busy.

GARMIN RINOs

If you are fortunate to have access to multiple Garmin Rinos (Family radios with a GPS) you can have the participants keep busy either talking and seeing on the unit where the other participants are, or by playing the Wayward Bomber game.

RADIO MERIT BADGE and GEOGRAPHY academic award

Have a poster showing the Radio Merit Badge as well as the requirements. You can run through the requirements for those interested in a later session.
http://www.scouting.org/scoutsource/BoyScouts/AdvancementandAwards/MeritBadges/mb-RADO.aspx

Here are a couple of links to PowerPoint presentations for the Radio Merit Badge.
http://k2gw.tripod.com/radiomeritbadgeday/id21.html
http://groups.yahoo.com/group/ScoutRadio

Your local radio club should also be interested in running the 3-4 hour merit badge session for the Boy Scouts.

FCC Licenses

JOTA can also generate interest in the participants in learning how to obtain their FCC license. It is important to mention that Morse code is no longer a requirement for obtaining a license.

http://www.arrl.org/ham-radio-licenses

FCC Licenses and Amateur Radio

Amateur Radio is regulated by the Federal Communications Commission (FCC) under the Communications Act of 1934. It is also subject to numerous international agreements. All Amateur Radio operators must be licensed. In the U.S., there are three license classes. The higher the class of license, the more frequencies are available. Earning each higher class license requires passing a more difficult examination. Although regulated by the FCC, license exams are given by volunteer groups of Amateur Radio operators. Operating under organizations called Volunteer Examiner Coordinators, volunteers administer and grade tests and report results to the FCC, which then issues the license. U.S. licenses are good for 10 years before renewal, and anyone may hold one except a representative of a foreign government.

The Technician License

The Technician class license is the entry-level license of choice for most new ham radio operators. To earn the Technician license requires passing one examination totaling 35 questions on radio theory, regulations and operating practices. The license gives access to all Amateur Radio frequencies above 30 megahertz, allowing these licensees the ability to communicate locally and most often within North America. It also allows for some

limited privileges on the HF (also called "short wave") bands used for international communications.

The General License

The General class license grants some operating privileges on all Amateur Radio bands and all operating modes. This license opens the door to world-wide communications. Earning the General class license requires passing a 35 question examination. General class licensees must also have passed the Technician written examination.

The Amateur Extra License

The Amateur Extra class license conveys all available U.S. Amateur Radio operating privileges on all bands and all modes. Earning the license is more difficult; it requires passing a thorough 50 question examination. Extra class licensees must also have passed all previous license class written examinations.

CUB SCOUT GEOGRAPHY Academic Award

There is also a worksheet available for the Cub Scouts to work on their Geography academic award.

The requirements can be found at this website.

http://www.usscouts.org/advance/cubscout/academics/geography.asp

HANDOUTS

A	alpha	A	alpha	A	alpha	A	alpha	A	alpha
B	bravo	B	bravo	B	bravo	B	bravo	B	bravo
C	charlie	C	charlie	C	charlie	C	charlie	C	charlie
D	delta	D	delta	D	delta	D	delta	D	delta
E	echo	E	echo	E	echo	E	echo	E	echo
F	foxtro	F	foxtro	F	foxtro	F	foxtro	F	foxtro
G	golf	G	golf	G	golf	G	golf	G	golf
H	hotel	H	hotel	H	hotel	H	hotel	H	hotel
I	india	I	india	I	india	I	india	I	india
J	Juliet	J	Juliet	J	Juliet	J	Juliet	J	Juliet
K	kilo	K	kilo	K	kilo	K	kilo	K	kilo
L	lima	L	lima	L	lima	L	lima	L	lima
M	mike	M	mike	M	mike	M	mike	M	mike
N	November	N	November	N	November	N	November	N	November
O	oscar	O	oscar	O	oscar	O	oscar	O	oscar
P	papa	P	papa	P	papa	P	papa	P	papa
Q	quebec	Q	quebec	Q	quebec	Q	quebec	Q	quebec
R	romeo	R	romeo	R	romeo	R	romeo	R	romeo
S	sierra	S	sierra	S	sierra	S	sierra	S	sierra
T	tango	T	tango	T	tango	T	tango	T	tango
U	uniform	U	uniform	U	uniform	U	uniform	U	uniform
V	victor	V	victor	V	victor	V	victor	V	victor
W	whiskey	W	whiskey	W	whiskey	W	whiskey	W	whiskey
X	x-ray	X	x-ray	X	x-ray	X	x-ray	X	x-ray
Y	yankee	Y	yankee	Y	yankee	Y	yankee	Y	yankee
Z	zulu	Z	zulu	Z	zulu	Z	zulu	Z	zulu

CHARACTER	MORSE CODE	TELEPHONY	PHONIC (PRONUNCIATION)
A	• —	Alfa	(AL-FAH)
B	— • • •	Bravo	(BRAH-VOH)
C	— • — •	Charlie	(CHAR-LEE) or (SHAR-LEE)
D	— • •	Delta	(DELL-TAH)
E	•	Echo	(ECK-OH)
F	• • — •	Foxtrot	(FOKS-TROT)
G	— — •	Golf	(GOLF)
H	• • • •	Hotel	(HOH-TEL)
I	• •	India	(IN-DEE-AH)
J	• — — —	Juliet	(JEW-LEE-ETT)
K	— • —	Kilo	(KEY-LOH)
L	• — • •	Lima	(LEE-MAH)
M	— —	Mike	(MIKE)
N	— •	November	(NO-VEM-BER)
O	— — —	Oscar	(OSS-CAH)
P	• — — •	Papa	(PAH-PAH)
Q	— — • —	Quebec	(KEH-BECK)
R	• — •	Romeo	(ROW-ME-OH)
S	• • •	Sierra	(SEE-AIR-RAH)
T	—	Tango	(TANG-GO)
U	• • —	Uniform	(YOU-NEE-FORM) or (OO-NEE-FORM)
V	• • • —	Victor	(VIK-TAH)
W	• — —	Whiskey	(WISS-KEY)
X	— • • —	Xray	(ECKS-RAY)
Y	— • — —	Yankee	(YANG-KEY)
Z	— — • •	Zulu	(ZOO-LOO)
1	• — — — —	One	(WUN)
2	• • — — —	Two	(TOO)
3	• • • — —	Three	(TREE)
4	• • • • —	Four	(FOW-ER)
5	• • • • •	Five	(FIFE)
6	— • • • •	Six	(SIX)
7	— — • • •	Seven	(SEV-EN)
8	— — — • •	Eight	(AIT)
9	— — — — •	Nine	(NIN-ER)
0	— — — — —	Zero	(ZEE-RO)